



**Submission Form
To
The Lebanon Recovery Fund Steering Committee**

To be completed by the Recovery and Reconstruction Cell (RRC)

Meeting No:	Date of Meeting:
Item No:	Programme/project

**(To be completed by the Participating UN Organisation
and endorsed by Working Group Chair)**

To: Lebanon Recovery Trust Fund Steering Committee	Date of Submission: April 2008
From: UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP)	Contact: Marta Ruedas UNDP Resident Representative [Redacted] 28/3/2008
Through: Working Group <input checked="" type="checkbox"/> Endorsement <input type="checkbox"/> Comments	Contact: Telephone Number: 01-985932 Email: marta.ruedas@undp.org
Proposed submission, if approved would result in: <input checked="" type="checkbox"/> Continuation of existing programme/project <input type="checkbox"/> New programme/project <input type="checkbox"/> Other (explain)	Proposed submission resulted from: <input type="checkbox"/> National Authorities initiative within national priorities <input checked="" type="checkbox"/> UN Agency initiative within national priorities <input type="checkbox"/> Other: Donor initiative within donor sector priorities
Programme/project title: CEDRO III - Country Energy Efficiency and Renewable Energy Demonstration Project for the recovery of Lebanon	
Amount of funds requested for proposed programme/project: 3,500,000 USD (equivalent to 2,500,000 Euros)	
Estimated number of beneficiaries: National Benefits	
Request against specific earmarking or unearmarked: earmarked	
Amount of indirect costs requested: 7%: 245,000 USD	

To be completed by the participating UN Organisation and endorsed by Working Group Chair

1. Background

Lebanon imports around 97% of its energy needs in the form of fossil fuel, which places a very heavy burden on the economy. In 2004, the national energy bill amounted to around 1.6 billion USD (around 20% of the annual public expenditure and around 7.8% of the national GDP), and in 2005 it reached 2.1 billion USD (around 26% of the annual public expenditure and around 10% of the national GDP). Despite major steps taken by the Government of Lebanon since 1990 towards improving the electricity sector, the sector is still facing major challenges including inability to meet increasing national electricity demand and large financial subsidies to EDL (around 1.0 billion USD in 2006).

In light of this draining situation, the government of Lebanon has placed the reform of the power sector among its highest national priorities, as outlined in the recovery, reconstruction and reform paper submitted to the Paris 3 conference. However, given the enormity of the challenges faced by the power sector, the power sector reform strategy has concentrated on addressing the energy supply side, without extending the scope to the demand side of energy management.

2. Purpose of Proposed Programme/Project

In order to bring about sustainable improvement in the patterns of energy consumptions and costs, reform on the supply side needs to be accompanied by reform on the demand side. As such, the proposed CEDRO programme has sought to complement the national power sector reform strategy by targeting end-use energy conservation. To achieve this, the CEDRO programme has planned a three phase approach, whereby the first foundation phase, CEDRO 1, has targeted the development and implementation of model energy efficiency and renewable energy applications for public sector buildings and facilities. The second phase, CEDRO 2 has supplemented this by an additional objective which targets the setting of an enabling environment for the conversion of all public sector buildings and facilities into energy efficient modalities. The proposed CEDRO 3 project further supplements the afore mentioned two cedro objectives, by a third key objective which is the setting of an enabling environment for the development and implementation of a national sustainable energy strategy and detailed action plan. The proposed CEDRO 3 project is the third and final key component to enable sustainability and a nationwide multi sectoral scope.

CEDRO		
CEDRO 1 (2007-2009)	CEDRO 2 (2009-2011)	CEDRO 3 (2009-2012)
<ul style="list-style-type: none"> ➔ Implementation of end-use energy efficiency and renewable energy applications for public sector buildings and facilities to reduce energy consumption and costs 	<ul style="list-style-type: none"> ➔ Implementation of end-use energy efficiency and renewable energy applications for public sector buildings and facilities to reduce energy consumption and costs ➔ Setting an enabling environment for the conversion of all public sector buildings and facilities into energy efficient modalities 	<ul style="list-style-type: none"> ➔ Implementation of end-use energy efficiency and renewable energy applications for public sector buildings and facilities to reduce energy consumption and costs ➔ Setting an enabling environment for the conversion of all public sector buildings and facilities into energy efficient modalities ➔ Setting an enabling environment for the development and adoption of a national sustainable energy strategy and action plan

3. Evaluation of Proposal

General principles and selection criteria		
(a)	Must be explicitly based on Lebanon's national priorities and needs, as noted in the public domain.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
(b)	Must fall with the UN's mandate, and must address the Millennium Development Goals, directly or indirectly through a human rights-based approach.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
(c)	Must promote and ensure national ownership.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
(d)	Must be at an acceptable level of risk, within UN parameters.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
(e)	Must fall within the areas of UN's comparative advantage.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
(f)	The UN must be an appropriate system to deliver the intervention.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
(g)	The UN response must be properly designed for and within the Sector setting, must be effective, coherent, context-sensitive, and cost-efficient and the outcomes, sustainable.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
(h)	Must avoid duplication of and significant overlap with the activities of other actors.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
(i)	Must build on existing capacities, strengths and experience.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
(j)	Must promote consultation, participation and partnerships.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If one or more of the above criteria is not met, please explain:		

Implementability

	2009	2010	2011
Estimated commitments (€mill)		—	—
Estimated disbursements (€mill)			—

Does the project correspond to national priorities? Yes No

The proposed project is in line with the Government of Lebanon's recovery, reconstruction and reform objectives as outlined in the Paris III document. Furthermore, the proposed project builds on the objectives of the Ministry of Finance to reduce government financial burdens and the objectives of the Ministry of Energy and Water to

Project approved by Line Ministry:

Signature of Line Minister:

4. Review by Recovery and Reconstruction Cell (RRC)

Check on Programme/Project Proposal Format Contents

- | | | |
|--|------------------------------|-----------------------------|
| <input type="checkbox"/> Cover sheet (first page) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| <input type="checkbox"/> Logical Framework | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| <input type="checkbox"/> Programme/Project Justification | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| <input type="checkbox"/> Programme/Project Management Arrangements | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| <input type="checkbox"/> Risks and Assumptions | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| <input type="checkbox"/> Budget | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| <input type="checkbox"/> Support Cost | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

Overall review of programme submission
Recommendations

Elaborate

5. Decision of the LRF Steering Committee

- Approved for a total budget of \$...3,500,000
- Approved with modification/condition
- Deferred

Reason/Comments

Elaborate

September 19, 2008

Signature

Date

6. Follow-up action taken by the Administrative Agent

Project consistent with provisions of the Letter of Agreement with donors (if applicable)

.....
Signature

.....
Date



**LEBANON RECOVERY FUND
PROJECT DOCUMENT COVER SHEET**

Participating UN Organisation: United Nations Development Programme (UNDP)	Sector: Energy and Environment
Programme/Project Manager Name: Edgard Chehab Address: UNDP Lebanon Telephone: +961 (0)3 240034 E-mail: edgard.chehab@undp.org	Working Group Chair Name: Address: Telephone: E-mail:
Programme/Project Title: "CEDRO" Country energy efficiency and renewable energy demonstration project for the recovery of Lebanon	Programme/Project Location: All Lebanon
Programme/Project Description: The project aims at supporting Lebanon's recovery, reconstruction and reform activities through the implementation of an end-use energy conservation programmes and through the removal of barriers for the advancement of sustainable energy applications.	Total Programme/Project Cost: LRF: 3,500,000 USD (equiv. 2,500,000 Euros) Government Input: Other: Total: 3,500,000 USD (equiv. 2,500,000 Euros)
	Programme/Project Duration: 2009 - 2012
Development Goal: Supporting Lebanon's recovery, reconstruction and reform activities through the implementation of an energy efficiency and renewable energy programme to help improve national patterns of energy consumption and costs. Immediate Objectives: <ol style="list-style-type: none"> 1. Reducing energy consumption and costs of public sector buildings and facilities 2. Setting an enabling environment for the conversion of all public sector buildings and facilities into energy efficient modalities 3. Setting an enabling environment for the development of a national sustainable energy strategy and action plan 	
Outputs and Key Activities: The project will install energy efficiency and renewable energy equipment in selected public sector buildings and facilities across Lebanon, and will monitor the impact of the installed equipment on the beneficiaries' energy bills. Furthermore, the project will assess and address the institutional and market barriers that hinder the promotion and activation of sustainable energy applications in Lebanon.	
Working Group Review Date: _____ RRC Review Date _____ Steering Committee/Project Approval Group Approval Date: _____	

On behalf of:	Date	Name/Title
Chair, LRF SC	19/9/2008	Minister of Economy & Trade
UNDP Lebanon	28/3/2008	Edgard Chehab / officer In Charge

2. Logical Framework

Objectives	Measurable indicators	Means of verification	Important assumptions
<p>Development Objective</p> <p><i>Enable green recovery, reconstruction and reform programmes that improve patterns of energy consumption and cost</i></p>	<p>Decrease in energy consumption/cost at the national level</p>	<p>Comparison of annual energy consumption per GDP</p>	<p>Continued government commitment to energy saving policies and programmes</p>
<p>Immediate Objectives:</p> <p><i>Reducing energy consumption and costs of public sector buildings and facilities</i></p> <p><i>Setting an enabling environment for the conversion of all public sector buildings and facilities into energy efficient modalities</i></p> <p><i>Setting an enabling environment for the development and adoption of a national sustainable energy strategy and action plan</i></p>	<p>Direct savings on beneficiary energy bills</p> <p>Availability of green procurement tools and energy planning capabilities</p> <p>Increased demand on energy efficiency and renewable energy equipment</p>	<p>Survey of beneficiary energy bills after project completion</p> <p>Inspection of energy Database and procurement tools</p> <p>Market survey after project completion</p>	<p>(Immediate Objective to Development Objective)</p> <p>Beneficiaries properly use and maintain the installed equipment</p> <p>Sufficient mechanisms are developed to remove institutional and market barriers</p>
<p>OUTPUTS:</p> <p><i>Installation of energy efficiency and renewable energy equipment</i></p> <p><i>Design and construction of model energy efficient building</i></p> <p><i>Availability of validated data on reduced energy consumption and costs</i></p> <p><i>Increased knowledge and awareness on Energy Efficiency and Renewable Energy applications</i></p> <p><i>Availability of policy measures and incentive measures for the activation of sustainable energy applications</i></p> <p><i>Availability of detailed cross-sectoral energy assessments and sustainable energy action plans</i></p>	<p>Number of beneficiary buildings and facilities</p> <p>Reduced energy/cost bills and reduced CO2 emissions</p> <p>Number of participating beneficiaries and stakeholders</p> <p>Tailored Policies and Incentive measures</p> <p>Tailored sectoral energy action plans</p>	<p>Survey of beneficiary sites utilising installed equipment</p> <p>Energy bills and energy measuring equipment used to collect data</p>	<p>(Outputs to immediate objective)</p> <p>Improper operation & maintenance of equipment (e.g. absence of spare parts)</p> <p>Reduction in conventional energy prices (through subsidies or other)</p> <p>Insufficient public interest</p> <p>Unstable political situation</p>
ACTIVITIES:	INPUTS:		(Activity to output)
<p>1. Situation analysis and preparation of energy efficiency and renewable energy projects</p> <p>1.1 Undertake a targeted energy assessment</p>	<p>50,000 USD (by international and local experts)</p>	<p>- Report on energy assessment</p> <p>- Report on identification of beneficiary sites</p>	<p>Lack of data</p> <p>Low level of collaboration from beneficiaries</p>

<p>1.2 Identify project proposals and beneficiary sites</p> <p>1.3 Develop tender documents for all identified works</p> <p>1.4 Develop capacity building & info dissemination plan</p> <p>1.5 Propose operation & maintenance management schemes</p>		<ul style="list-style-type: none"> - Complete set of Tender documents - Capacity building and awareness plan - Proposal on O&M schemes 	
<p>2. Implementation of energy efficiency and renewable energy projects</p> <p>2.1 Undertake Bidding & Procurement of goods & services</p> <p>2.2 Undertake Commissioning of works</p> <p>2.3 Undertake Supervision and monitoring of works</p> <p>2.4 Undertake testing of performance and data collection</p>	2,100,000 USD (by international and local experts)	<ul style="list-style-type: none"> - Award of contracts - Commissioning of Installations - Satisfactory execution of works - Data on reduced energy consumption 	<p>Low acceptance of new technology by beneficiaries</p> <p>Delays in equipment delivery</p> <p>Delays in sub-contracted works on site</p>
<p>3. Design and construction of model energy efficient building</p> <p>3.1 Set space requirements and design terms of reference</p> <p>3.2 Announce Design Competition</p> <p>3.3 Select winning design</p> <p>3.4 Undertake bidding and procurement of Contracting Services</p> <p>3.5 Follow-up on Construction</p>	550,000 USD (by international and local experts)	<ul style="list-style-type: none"> - Design and execution drawings - Award of Construction 	No site allocation
<p>4. Development of policies and incentive measures to promote sustainable energy applications</p> <p>4.1 Assessment of existing financial tools</p> <p>4.2 Design and promotion of viable financial incentive mechanisms</p> <p>4.3 Assessment of related legislation</p> <p>4.4 Design and promotion of viable legislative incentive mechanisms</p>	80,000 USD (by international and local experts)	<ul style="list-style-type: none"> - Report on financial tools and incentives - Report on current & proposed legislation - Consultation Meetings - Development of national energy efficiency program 	Unstable political situation
<p>5. Development of thorough database on public sector buildings and energy use patterns</p> <p>5.1 Inventory of Buildings and facilities</p> <p>5.2 Surveys and data mapping</p> <p>5.3 Development of Database</p>	100,000 USD (by local experts)	Availability of Database	Inability to access data
<p>6. Development and implementation of capacity building and awareness</p>	80,000 USD (by international and	- Organisation of workshops,	Insufficient participation in awareness raising and

<i>raising programs</i> 6.1 <i>Develop material for technical workshops</i> 6.2 <i>Implement technical workshops</i> 6.3 <i>Develop material for awareness raising activities</i> 6.4 <i>Implement awareness raising activities</i>	<i>local experts)</i>	lectures, one-on-one trainings with the different stakeholders	capacity building to sustain the project
7 <i>Development of National Sustainable energy action plan</i> 7.1 <i>Assessment of cross sectoral energy use patterns</i> 7.2 <i>Identification of viable short term, medium term and long term action measures</i> 7.3 <i>Identification of Implementation tools and mechanisms</i>	80,000 USD <i>(by international and local experts)</i>	- Report of cross-sector energy use patterns and needs	Insufficient access to data
8 <i>Project Validation and Sustainability</i> 8.1 <i>Undertake validation of project results</i> 8.2 <i>Enable project sustainability and replication</i> 8.3 <i>Undertake final project evaluation</i>	60,000 USD <i>(by international and local experts)</i>	- Report on validation of project results - Independent Project evaluation report - New project proposal	Insufficient resource mobilization
9. <i>Project Management</i>	155,000 USD		
10. <i>Project Overhead</i>	245,000 USD		

3. Programme/Project Justification

Lebanon imports around 97% of its energy needs in the form of fossil fuel, which places a very heavy burden on the economy. In 2004, the national energy bill amounted to around 1.6 billion USD (around 20% of the annual public expenditure and around 7.8% of the national GDP), and in 2005 it reached 2.1 billion USD (around 26% of the annual public expenditure and around 10% of the national GDP).

Despite major steps taken by the Government of Lebanon since 1990 towards improving the electricity sector, the sector is still facing major challenges including inability to meet increasing national electricity demand and large financial subsidies to EDL (around 1.0 billion USD in 2006). This situation was further aggravated by the July 2006 conflict, resulting in an increase in electricity rationing and a further deterioration in the living conditions in the country.

In light of this draining situation, the government of Lebanon has placed the reform of the power sector among its highest national priorities, as outlined in the recovery, reconstruction and reform paper submitted to the Paris 3 conference. However, given the enormity of the challenges faced by the power sector, the power sector reform strategy has concentrated on addressing the energy supply side, without extending the scope to the demand side of energy management.

Knowing that reform on the supply side needs to be accompanied by reform on the demand side, the proposed CEDRO programme has sought to complement the national power sector reform strategy by targeting end-use energy conservation. To achieve this, the CEDRO programme has planned a three phase approach, whereby the first foundation phase, CEDRO 1, has targeted the development and implementation of model energy efficiency and renewable energy applications for public sector buildings and facilities. The second phase, CEDRO 2 has supplemented this by an additional objective which targets the setting of an enabling environment for the conversion of all public sector buildings and facilities into energy efficient modalities. The proposed CEDRO 3 project further supplements the afore mentioned two cedro objectives, by a third key objective which is the setting of an enabling environment for the development and implementation of a national sustainable energy strategy and detailed action plan. The proposed CEDRO 3 project is the third and final key component to enable sustainability and a nationwide multi sectoral scope.

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The proposed CEDRO 3 project builds on the objectives of the Ministry of Finance to reduce government financial burdens and the objectives of the Ministry of Energy and Water to meet national electricity demand. In particular, the proposed CEDRO 3 project is in line with the proposed sustainable energy programme for Lebanon, which aims at assisting the Government of Lebanon to develop, promote and adopt a Sustainable Energy Strategy (SES). Whereby, to reach this objective, the SES programme will work on two levels: the first involves the implementation of sustainable energy applications for public sector buildings and facilities to establish a demonstrative model that would encourage the private sector and the general public to take up similar initiatives; the second involves creating an enabling environment in terms of financial mechanisms and legislative reforms that would encourage a market transformation towards sustainable energy applications.

Furthermore, the proposed CEDRO 3 project builds on the activities already initiated under the LRF CEDRO 1 and 2. Additionally, the CEDRO 3 project builds on the activities already initiated by the Lebanese Center for Energy Conservation project (LCECP) which is a joint UNDP/MEW project aimed at removing barriers for the promotion of energy conservation and the activation of energy saving companies in Lebanon. In this respect, LCECP has already successfully implemented similar energy efficiency and renewable energy projects in Lebanon including the installation of individual and collective solar water heater systems in conflict damaged areas in Lebanon as part of the early recovery programme.

The proposed project includes implementation of demonstration projects and development of policy-level changes, awareness raising and capacity building. The project continues the on-going assistance provided by UNDP to the Government of Lebanon to enhance capacity for better environmental governance in line with the United Nations Development Assistance Framework (UNDAF), and in line with the Millennium Development Goal 7 (MDG 7) of achieving environmental sustainability.

The Project's national partners will be the Ministry of Energy and Water, the Ministry of Finance and the Council for Development and Reconstruction. In this respect, it is worth noting that the Ministry of Energy and Water and UNDP have recently signed an agreement to transform the LCECP project into a Lebanese Center for Energy Conservation, providing support to the Government of Lebanon for the activation of energy efficiency and renewable energy applications in Lebanon.

The CEDRO 3 project is consistent with the European's initiatives in general and with the Spanish Government in specific, which aim at promoting the adoption of energy efficiency and renewable energy technologies and practices in building construction and renovation within Mediterranean countries. Such initiatives will have direct impact on the world energy resources as well as on the world climate change / global warming issues that are becoming the world critical concerns. Countries, such as Spain, that are leaders in energy efficiency and renewable energy technologies would play an essential role in transferring their long gained experience in energy efficiency and renewable energy to other countries in the Mediterranean Basin which will contribute further direct support to the Lebanese Government during its reconstruction effort.

Therefore, the proposed project shall be assistance to the Government of Lebanon in implementing energy efficiency and renewable energy projects to support the recovery, reconstruction and reform programme and to reduce national energy consumption and costs. This will ultimately result in a decrease in greenhouse gas (GHG) emissions by introducing and demonstrating new energy and cost efficient approaches and by supporting the overall market transformation towards energy efficiency and renewable energy technologies.

In the framework of the CEDRO programme, an international consultancy specialized in Energy Efficiency and Renewable Energy applications and technologies will provide the technical support required for the effective design, implementation and validation of the project.

4. Management Arrangements

Implementation arrangements

The following implementation arrangements will be undertaken:

The Project will be executed under the UNDP Direct Execution modality (DEX), whereby UNDP will act as both the implementing and the executing agency.

For the day-to-day management of the project, the UNDP CO will set-up a Project Management Unit (PMU). The PMU will work under the direct supervision of the Environment and Energy Programme of the UNDP CO, and in close collaboration with the project partners including the Ministry of Finance, the Ministry of Energy and Water and the Council for Development and Reconstruction. Furthermore, the PMU will also work in close collaboration with the donor, the local direct and indirect beneficiaries, as well as with the international team of experts from the technical backstopping agency. The PMU will be responsible for the overall execution of the project and will be led by a full time national Project Manager and supported by the required local professional and administrative staff.

The Lebanese Center for Energy Conservation (LCEC) will be in charge of undertaking a number of energy audits for public buildings and facilities, and will also further accompany the project's activities. Additionally, the PMU will build on the activities already initiated or are to be initiated by LCEC.

The International Technical Backstopping Agency will be in charge of the analysis and assessment and will provide the technical support needed for the effective design, implementation and validation of the project. This will ensure that best practices and lessons learnt about similar activities in other countries are adequately taken into account in project implementation.

The UNDP CO will monitor the progress towards intended results, and will ensure high-quality managerial and financial implementation of the project, and will be responsible for monitoring and ensuring proper use of administrated funds to the assigned activities, timely reporting of implementation progress as well as undertaking of mandatory and non-mandatory evaluations. Furthermore, the procurement of goods and services and the recruitment of personnel shall be provided in accordance with UNDP guidelines, procedures and regulations.

In order to ensure optimum involvement of the project partners and beneficiaries, a Project Coordination Committee (PCC) will be set-up. The PCC will build upon the existing LCECP Steering Committee, and will include representatives from all concerned parties including:

- *Direct Beneficiaries:* National public sector entities and individuals benefiting from the proposed projects (MEW, MPWT, MoD, MoM, MoE, MoF, MoET, CDR, municipalities, etc.)
- *Indirect Beneficiaries:* local NGOs and private sector entities.
- *Government of Spain, AECl and other Spanish Energy Agencies:* Donor country and international technical back-stopper to the proposed project
- *United Nations Development Programme:* Implementing and executing agency (technical and financial management, as well as monitoring and supervision) of the proposed project
- *Lebanese Center for Energy Conservation (LCEC):* Local Technical Agency collaborating with the proposed project
- *International Energy Experts:* International Experts from the technical back-stopping agency providing technical services during the project phases
- *Local Energy Experts:* National Experts providing technical services during the project phases

Project Timeframe

The implementation of the proposed programme is 3 years.

Project Implementation Partners

National Partners: Ministry of Energy and Water
Ministry of Finance
Council for Development and Reconstruction
International Partners: Spanish Agency for International Cooperation

Project Components

Output 1: Implementation of model energy efficiency and renewable energy applications for public sector buildings and facilities

This output involves the implementation of energy efficiency and renewable energy applications for public buildings and facilities based on a targeted energy assessment, followed by the procurement and installation of the required goods and services. All activities will be closely monitored to ensure proper implementation and to analyse, in detail, the cost-benefit of such applications.

Lebanon will benefit from a reduction in national expenditure on the cost of electricity to government buildings with a relatively small investment cost. Furthermore, this output would set a trend aimed at encouraging the private sector to adopt similar cost-effective sustainable energy applications.

The energy efficiency and renewable energy applications will include:

- Replacement of incandescent lamps with CFLs and thermal ballast with electronic ones
- Motion sensors and timers for lighting control
- Boiler tuning and efficiency enhancement
- PF correction and enhancement
- HVAC works (insulation, air balance, etc.)
- Roof thermal insulation
- Window protection
- Standby power consumption
- Improved O&M approach including preventive maintenance
- Solar Thermal Applications
- Photovoltaic applications
- Others as deemed necessary

Output 2: Setting an enabling environment for the conversion of all public sector buildings and facilities into energy efficient modalities

This output involves the provision of capacity building and information dissemination in order to promote public sector capacity and capability for the planning and implementation of energy efficiency and renewable energy applications and policies

The capacity building and information dissemination will include:

- Operation and maintenance
- Thermal Insulation
- Solar water heating
- Photovoltaic applications
- Cost-benefit evaluation
- Resource mobilization
- Others as deemed necessary

Furthermore, this output involves the establishment of thorough energy data base and the development of relevant policies and procedures for the advancement and implementation of energy efficiency and renewable energy applications and policies.

The data base will include a thorough mapping of all public sector buildings and facilities with detailed information relating to area in m2, number of users, major electric equipment, electricity bills and other energy bills, comparative energy bench-marking, etc.

Output 3: Setting an enabling environment for the development and adoption of a national Sustainable Energy Strategy and action plan

This output involves the assessment of cross-sectoral energy use and energy needs, and the proposal of detailed viable actions (short term, medium term and long term) to improve cross-sectoral national energy performance.

Furthermore, this output also involves the analysis of viable incentive measures to promote sustainable energy applications. This output tackles the financial, legal and market aspects and aims at proposing sector reforms to encourage the Lebanese market to shift towards more sustainable energy use and discourage energy inefficiencies.

In this output, various scenarios, opportunities, and approaches will be investigated and viable modalities, policies/regulations and mechanisms will be developed to ultimately facilitate the development of a local market for energy efficiency measures, solar thermal applications among other renewable energy applications. Different actors will be involved in this output including the Ministry of Finance, Central Bank, private and public financial institutions.

The project will build on assessments already initiated by LCECP and other projects, including tariff structures, taxation and incentives or disincentives, public sector procurement guidelines as well as equipment standards and codes.

Some of the proposed measures include, but are not limited to, the following:

- National energy efficiency law developed, issued and adopted
- Energy efficiency standards / considerations integrated into the high energy consuming appliances
- Legal framework developed and adopted for the creation of the energy / solar thermal fund
- Energy efficiency measures and solar thermal applications Integrated within the permits issued for the new industrial / commercial facilities
- Solar thermal applications reflected in the current building code
- Others as deemed necessary

5. Analysis of risks and assumptions

Since energy efficiency and renewable energy programmes and projects are relatively new approaches to the Government of Lebanon and to the general Lebanese public, the proposed programme may face some barriers and risks to proper implementation.

These barriers and risks can be summarized as follows:

- a- Improper operation and maintenance of the installed energy efficiency and renewable energy equipment by the beneficiaries
- b- Low level of collaboration by the beneficiaries during the programme implementation
- c- Low level of acceptance of the new installed technologies
- e- Insufficient funds to implement the proposed programme especially after the energy assessment outcomes

On another level, the proper use, operations and maintenance of the installed equipment is necessary to ensure programme continuation. The proper implementation of the project through qualified national and international personnel, including adequate technical capacity building and awareness raising activities, will minimise the impact of the above listed risks.

In addition, continued or additional energy subsidisation by the Government of Lebanon may pose a risk to the continued adoption of this programme. Any changes in the political situation in Lebanon cannot also be neglected. Both of these risks are beyond the control of the proposed programme.

6. Programme/Project Budget

The budget would utilise the Standard Format agreed by UNDG Financial Policies Working Group.

CATEGORY	ITEM	UNIT COST	NUMBER OF UNITS	TOTAL COST (USD)
1. Personnel Incl. staff and consultants				170,000
2. Contracts Incl. companies, professional services, grants				440,000
3. Training				40,000
4. Transport (local)				10,000
5. Supplies and commodities				50,000
6. Equipment (including installation)				2,500,000
7. Travel				15,000
8. Miscellaneous				30,000
9. Agency Management Support (7%)				245,000
TOTAL				3,500,000